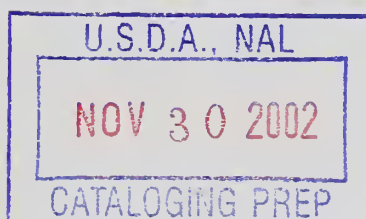
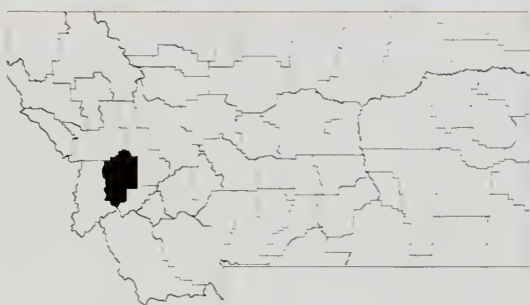


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FLINT CREEK TIMBER BRIDGE, Granite County, Montana

aTG365
.F55
2000



Type: Glued-laminated timber stringers and transverse glued-laminated deck

County: Granite

Owner: Granite County, Montana

Built in: 1991

Engineer: Merv Eriksson

Spans over: Flint Creek

Bridge length: 39'-0"

Roadway width: 24'-0"

Directions: From Philipsburg and the intersection of MT 1 and CR 348. Travel north on MT 1 approximately 1.5 miles to the intersection of MT 1 and Black Pine Road. Turn left onto Black Pine Road and the bridge site is approximately 0.3 miles from the intersection.



USDA Forest Service

The National Wood In
Transportation Program





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WIT-15-0029

GEOMETRY

Number of Spans: 1
 Out-to-out length: 40'-6"
 Center-of-bearing span lengths: 39'-0"
 Skew: 0 degrees
 Number of lanes: 2
 Out-to-out width: 26'-0"
 Curb-to-curb width: 24'-0"
 Number of beams and spacing: 6 @ 4'-4"
 Superstructure square footage: 1053

Design load: HS-20
 Deadload: Approx. 245 lbs/ft/beam
 Averaged daily traffic: 100
 Superstructure design by: Merv Eriksson,
 USDA Forest Service
 Substructure design by: Merv Eriksson,
 USDA Forest Service

Total project cost: \$74,430
 Total superstructure cost: \$30,500
 Total superstructure cost /sq ft: \$28.96

MATERIAL**DECK**

Material: Wood/glulam
 Species: Coastal Douglas-fir
 Allowable bending stress: 1,760 psi
 Sizes used: 5-1/8" x 48" x 26'-0"
 Quantity: 5,330 bf
 Preservative treatment: Pentachlorophenol,
 Type A Solvent (heavy oil)
 Wearing surface: 3" x 12" coastal Douglas-fir
 planks

BEAMS/STRINGERS

Material: Wood/glulam
 Species: Coastal Douglas-fir
 Allowable bending stress: 2,200 psi
 Sizes used: 8-3/4" x 31 1/2" x 40'-0"
 Quantity: 5,512 bf
 Preservative treatment: Pentachlorophenol,
 Type A Solvent (heavy oil)

**BRIDGE GUIDERAIL & APPROACH
RAIL POSTS**

Material: Wood/glulam
 Species: Coastal Douglas-fir, Grade No. 1
 Sizes used: 8" x 10", 6" x 8", 10" x 10"
 Preservative treatment: Pentachlorophenol,
 Type A Solvent (heavy oil)

**BRIDGE GUIDERAIL & APPROACH
RAIL**

Material: Weathering steel (type-IV) w-beam
 Size: 3-1/8" x 13-1/2"

ABUTMENTS

Material: Wood
 Species: Coastal Douglas-fir
 Grade: No. 1 or better
 Preservative treatment: Pentachlorophenol,
 Type A Solvent (heavy oil)
 Hardware & structural steel: A 36 black
 steel, A 307 bolts & nuts (uncoated)

ABUTMENTS(continued)

Abutment type: Treated timber retaining wall
 w/tie-backs
 Abutment height (bottom of footings to top
 of deck): 10'-6"

LOCAL IMPACT: This bridge carries Black Pine Road over Flint Creek in Granite County, Montana. The bridge is used by mining, ranching, and recreational/tourist traffic.

BRIDGE PERFORMANCE: This two lane, glued-laminated treated timber bridge replaced a 38 year old single lane untreated king post timber bridge. The existing bridge was removed, the treated timber abutments installed, beam and deck panels set, bridge and approach guardrail system installed, and roadfill placed during an 8 day construction period.

FUNDING SOURCES: USDA Forest Service: \$45,000; Balance of funding from Granite County, Montana.

LOCAL CONTACT: Merv Eriksson, Structural Engineer
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Information provided by Merv Eriksson

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Federal Grant Identifier: R01-001-89-VEH

August 2000



Northeastern Area
 State and Private Forestry